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Docket No.: P1-004DVA

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Serial No.: 10/034,356

Filed: December 27, 2001

In re Application of: John M. Pinneo

For: IMPROVED THERMAL MANAGEMENT COMPONENTS

J. Geron  
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a  
12/16/002

Certificate of Mailing

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail, in an envelope addressed to Director of Patents, Washington, D.C. 20231 on 1/24/02, Signed Stephanie Davis  
Stephanie Davis

PRELIMINARY AMENDMENT

Director of Patents  
Washington, D.C. 20231

Dear Sir:

Kindly amend the above-identified application as follows.

In the Claims

Please amend Claims 70, 72-75, 77, 79, and 81 and replace with the following "clean" versions:

70. The method of claim 69 wherein growing said diamond film comprises growing a diamond film having an area larger than said thermal transfer surface area of the semiconductor device and further including:

dividing said diamond film into portions, at least one portion having an area matched to the thermal transfer area of the semiconductor device; and

wherein said thermally coupling said first surface of said diamond film to said thermal transfer surface area of the semiconductor device comprises thermally coupling a first surface of said at least one portion of said diamond film to said thermal transfer surface area of the semiconductor device.

72. The method of claim 69 wherein said thermally coupling said first surface of said diamond film to said thermal transfer surface area of the semiconductor device comprises mechanically bonding said first surface of said diamond film to said thermal transfer surface area of said semiconductor device with a bonding material having a thermal conductivity greater than  $0.1 \text{ W/cm}^\circ\text{K}$ .

73. The method of claim 72 further including mechanically bonding a second surface of said diamond film to a heat sink with a bonding material having a thermal conductivity greater than  $0.1 \text{ W/cm}^\circ\text{K}$ .

74. The method of claim 69 wherein said thermally coupling said first surface of said diamond film to said thermal transfer surface area of the semiconductor device comprises maintaining said first surface of said diamond film and said thermal transfer surface area of said semiconductor device in compression against one another.

75. The method of claim 74 further including maintaining a heat sink in compression with a second surface of said diamond film.

77. The method of claim 76 wherein said growing said diamond film comprises growing a diamond film having an area larger than said thermal transfer surface area of the semiconductor device and further including:

dividing said diamond film into portions, at least one portion having an area matched to the thermal transfer area of the semiconductor device; and

wherein said thermally coupling a first surface of said diamond film to said thermal transfer surface area of the semiconductor device comprises thermally coupling a first surface of said at least one portion of said diamond film to said thermal transfer surface area of the semiconductor device.

79. The method of claim 76 wherein said thermally coupling said first surface of said diamond film to said thermal transfer surface area of the semiconductor device comprises mechanically bonding said first surface of said diamond film to said thermal transfer surface area of said semiconductor device with a bonding material having a thermal conductivity greater than  $0.1 \text{ W/cm}^\circ\text{K}$ .